CLAIMS

What is claimed is:

1. A method for a peripheral device to regulate its temperature by regulating its power consumption, comprising:

reducing offline diagnostic activities if the temperature of the peripheral device exceeds a first temperature;

reducing operational speed in which the peripheral device fulfills requests from a host device if the temperature of the peripheral device exceeds a second temperature; and

reducing power consumption of a physical layer interface that connects the peripheral device to the host device if the peripheral device exceeds a third temperature and if the peripheral device experienced a period of inactivity that exceeds a first time threshold.

- 2. The method of claim 1, wherein the first temperature is lower than the second temperature.
- 3. The method of claim 1, wherein the second temperature is lower than the third temperature.
- 4. The method of claim 1, further comprising:

further reducing power consumption of the physical layer interface if the peripheral device exceeds a fourth temperature that is higher than the third

temperature and if the peripheral device experienced a period of inactivity that exceeds a second time threshold.

- 5. The method of claim 4, wherein the second time threshold is longer than the first time threshold.
- 6. The method of claim 1, wherein the peripheral device is a hard drive.
- 7. The method of claim 6, wherein the method further comprises:

 parking heads of the hard drive if the peripheral device exceeds a fourth temperature and if the peripheral device experienced a period of inactivity that exceeds a second time threshold.
- 8. The method of claim 7, wherein the second time threshold is longer than the first time threshold.
- 9. The method of claim 8, wherein the fourth temperature is higher than the third temperature.
- 10. A method for regulating temperature in a mass storage device comprising: monitoring the temperature of the mass storage device; and reducing power consumption when the temperature exceeds a certain threshold;

wherein the mass storage device is capable of operating while the power consumption is reduced.

- 11. The method of claim 10, wherein the mass storage device is a hard drive.
- 12. The method of claim 11, wherein the power consumption is reduced by suspending offline diagnostic activities.
- 13. The method of claim 11, wherein the power consumption is reduced by reducing seek speed of the hard drive.
- 14. The method of claim 11, wherein:

the hard drive has a physical layer interface that connects the peripheral device to a host device,

the physical layer interface has different power modes;

the power consumption is reduced by changing the power mode of the physical layer interface.

- 15. The method of claim 14, wherein the power mode is changed only if a period of inactivity where the host device has not used the hard drive has elapsed.
- 16. The method of claim 15, wherein the power mode reverts back to its original mode when the host attempts to use the hard drive.
- 17. The method of claim 14, wherein the power mode is changed from active to partial.

- 18. The method of claim 14, wherein the power mode is changed from partial to slumber.
- 19. The method of claim 11, wherein the hard drive can be placed into a standby state, and wherein power consumption is reduced by placing the hard drive into the standby state if a period of inactivity where the host device has not used the hard drive has elapsed.
- 20. A hard drive that autonomously manages its temperature comprising:a hard platter that rotates;a magnetic medium that stores information;
 - heads that read and write information to the magnetic medium;
 - an arm that holds the heads;
 - a temperature sensor that measures temperature;
- an integrated controller that can reduce power consumption when the temperature exceeds a certain threshold, wherein the hard drive is capable of operating while the power consumption is reduced.